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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,246	12/07/2004	Matthias Muth	DE02 0147 US	3106

65913 7590 09/02/2009

NXP, B.V.
NXP INTELLECTUAL PROPERTY & LICENSING
M/S41-SJ
1109 MCKAY DRIVE
SAN JOSE, CA 95131

EXAMINER	
FEARER, MARK D	
ART UNIT	**PAPER NUMBER**
2443	

NOTIFICATION DATE	DELIVERY MODE
09/02/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/517,246	MUTH, MATTHIAS	
	Examiner	Art Unit	
	MARK D. FEARER	2443	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 07 December 2004.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-14 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's Amendment filed 30 June 2008 is acknowledged.
2. Claims 1-14 have been amended.
3. Claim 15 is cancelled.
4. Claims 1-14 are pending in the present application.
5. Final Action of 20 October 2008 is withdrawn.

6. In view of the appeal brief filed on 26 May 2009, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Tonia LM Dollinger/

Supervisory Patent Examiner, Art Unit 2443

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is a method claim, but it does not construe a process.

9. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 4 does not describe the required step for performing a specified function as required by the sixth paragraph of
35 U.S.C. 112.

10. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Dependent claim 9 is a product claim which depends on Claim 1, a method claim.

11. Claims 10-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Dependent Claims 10-13 are product claims which depends on Claim 9, which depends on Claim 1, a method claim.

12. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Dependent Claim 14 is a product claim which depends on Claim 13, which depends on Claim 9, which depends on Claim 1, a method claim.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claims 1-10 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boezen et al. (US 6154061 A) in view of Markkula et al. (US 5475687 A).

Consider claim 1. Boezen et al. discloses a method comprising a controller area network bus driver with output signals comprising a signal level of the data traffic on a system in which all the nodes and/or all the users of the system are addressed and/or activated by the signal level of the data traffic on the system ((“Such a bus driver is known from European Patent Specification EP 0 576 444 and is used in so-called Controller Area Network (CAN) bus systems which are used, inter alia, in cars. For this, use is made of transceivers (transmitter/receiver), information being transmitted as a differential signal via a two-wire bus having its two wires connected to the first and the second bus terminal. The transmitter supplies data signals to the bus and is from now on referred to as bus driver. The two bus wires are usually referred to as CANH and CANL and are connected to a pull-down resistor and a pull-up resistor at the receiver side. The voltages across the two bus wires have opposite polarities, as a result of which the spurious electromagnetic fields radiated by the two wires cancel one another. In the case of a high degree of symmetry the bus wires can take the form of a twisted

pair and no expensive shielding is necessary. For this purpose the symmetry of the signals on the two bus wires should be as high as possible.") column 1 lines 25-43) and symmetrical output signals ((“CAN bus driver with symmetrical differential output signals”) title, abstract). However, Boezen et al. fails to disclose a method of subnetting, a serial databus, or reduced consumption states. Markkula et al. discloses a network and intelligent cell for providing sensing, bidirectional communications and control comprising a serially networked system, in particular a serial databus system ((“The use of the repeater CRC calculation associated with the field 99 and the use of the circular list will prevent repeating of a previously rebroadcast packet. Note that even if an announcer continually rebroadcasts the same sequence of messages, for example, as would occur with the continuous turning on and turning off of a light, a cell designated as a repeater will rebroadcast the same message since the packet containing messages appears to be different. This is true because the random number sent with each of the identical messages will presumably be different. However, in the instance where a cell receives the same message included within the same field 99 (same random number), the packet with its message will not be rebroadcast. This is particularly true for probe packets. Thus, for the establishment of groups discussed above, the broadcast probe packets quickly "die out" in the network, otherwise they may echo for some period of time, causing unnecessary traffic in the network.”) column 15 lines 63-67 and column 16 lines 1-14 (“Each of the cells includes a timing generator (RC oscillator) for providing a 16 mHz signal. This signal is connected to a rate multiplier 178 contained in the I/0 section (FIG. 18). The multiplier 178 provides output frequencies to

each I/O subsection. This multiplier provides a frequency f.sub.0 equal to: ##EQU1## The loaded value is a 16 bit word loaded into a register of a rate multiplier 178. The rate multiplier comprises four 16-bit registers and a 16-bit counter chain. Four logic circuits allow selection of four different output signals, one for each subsection. Two bus cycles (8 bits each) are used to load the 16 bit words into the register of the rate multiplier 178. As can be seen from the above equation, a relatively wide range of output frequencies can be generated. These frequencies are used for many different functions as will be described including bit synchronization. The output of the multiplier 178 in each of the subsection is coupled to an 8 bit counter 179. The counter can be initially loaded from a counter load register 180 from the data bus of the processors. This register can, for example, receive data from a program. The count in the counter is coupled to a register 181 and to a comparator 182. The comparator 182 also senses the 8 bits in a register 183. The contents of this register are also loaded from the data bus of the processors. When a match between the contents in the counter and the contents of register 183 is detected by comparator 182; the comparator provides an event signal to the state machine of FIG. 19 (input to multiplexers 190 and 191). The contents of the counter 179 can be latched into register 181 upon receipt of a signal from the state machine (output of the execution register 198 of FIG. 19). The same execution register 198 can cause the counter 179 to be loaded from register 180. When the counter reaches a full count (terminal count) a signal is coupled to the state machine of FIG. 19 (input to multiplexers 190 and 191).") column 32 lines 20-61), a subnetwork operation (("Subnetwork: A subnetwork comprises all the cells having the same system identification (system ID).

For example, all the cells in a single family home may have the same system ID. Therefore, the channels of FIG. 4 may be part of the same subnetwork in that they share the same system ID. Full Network: A full network may comprise a plurality of subnetworks each of which has a different system ID; a communications processor is used for exchanging packets between subnetworks. The communications processor translates packets changing their system ID, addressing and other information. Two factory buildings may each have their own system ID, but control between the two is used by changing system IDs. (The word "network" is used in this application in its more general sense and therefore refers to other than a "full network" as defined in this paragraph.)") column 7 lines 4-19), to full network operation, characterized in that the system is changed over from the subnetwork operation to the full network operation through the detection of at least one defined, especially continuous and/or especially symmetrical signal level pattern in the data traffic on the system (("In many networks using the synchronous transmission of digital data, encoding is employed to embed timing information within the data stream. One widely used encoding method is Manchester coding. Manchester or other coding may be used to encode the packets described above, however, the coding described below is presently preferred. A three-of-six combinatorial coding is used to encode data for transmission in the presently preferred embodiment. All data is grouped into 4 bit nibbles and for each such nibble, six bits are transmitted. These six bits always have three ones and three zeroes. The transmission of three ones and three zeroes in some combination in every six bits allows the input circuitry of the cells to quickly become synchronized (bit synch) and to

become byte synchronized as will be discussed in connection with the I/O section. Also once synchronized (out of hunt mode) the transitions in the incoming bit stream are used to maintain synch. The righthand column of FIG. 9 lists the 20 possible combinations of 6 bit patterns where 3 of the bits are ones and 3 are zeroes. In the lefthand column, the corresponding 4 bit pattern assigned to the three-of-six pattern is shown. For example, if the cell is to transmit the nibble 0111, it is converted to the bit segment 010011 before being transmitted. Similarly, 0000 is converted to 011010 before being transmitted. When a cell receives the 6 bit patterns, it converts them back to the corresponding 4 bit patterns. There are 20 three-of-six patterns and only 16 possible 4 bit combinations. Therefore, four three-of-six patterns do not have corresponding 4 bit pattern assignments. The three-of-six pattern 010101 is used as a preamble for all packets. The flags for all packets are 101010. The preamble and flag patterns are particularly good for use by the input circuitry to establish data synchronization since they have repeated transitions at the basic data rate. The two three-of-six patterns not assigned can be used for special conditions and instructions. Accordingly, a cell prepares a packet generally in integral number of bytes and each nibble is assigned a 6 bit pattern before transmission. The preamble and flags are then added. The circuitry for converting from the 4 bit pattern to the 6 bit patterns and conversely, for converting from the 6 bit patterns to the 4 bit patterns is shown in FIGS. 14 and 15.") column 16 lines 17-59) in which at least one node and/or at least one user of the system is in a state of reduced current consumption and is not addressed and/or not activated by the signal level of the data traffic on the system ((" This method is used

in a network in which group and cell ASCII names have been assigned. The user commands the grouping device to wait for the next group announcement. Then the user stimulates the announcer in the group of interest. For example, if the announcer is a light switch, the user throws the switch. The grouping device hears the announcement packet and extracts the group ID from it. The user may verify that this group ID is for the desired group by causing the grouping device to send packets to all of the group listeners commanding them to toggle their outputs. The user verifies that it is the desired group by observing the actions of the listener cells (for example, if the group consists of lighting controls, the light flashes). Now using that group ID, the grouping device broadcasts a packet to the group requesting that each cell reply with its cell name until the cell of interest is found. The user selects that name and the grouping device, knowing that cell's ID, can proceed with the group assignment process. If a user elects, the ID of the cell may be verified before proceeding with the grouping procedure. The following procedure is used to verify that the ID is for the target cell. If the selected cell is an announcer, the grouping device prompts the user to activate the announcer by stimulating its input. For example: if the cell is attached to a light switch, the user turns the switch on and off. The grouping device is then able to discover the group address and member number of the cell. If the selected cell is a listener, the grouping device sends packets to the cell (using the group and member numbers, for addressing) commanding it to toggle its output. For example, if the cell controls a light, the light will flash on and off. This allows the user to verify that he has selected the correct cell.") column 12 lines 26-60).

Boezen et al. discloses a prior art method comprising a controller area network bus driver with output signals comprising a signal level of the data traffic on a system in which all the nodes and/or all the users of the system are addressed and/or activated by the signal level of the data traffic on the system and symmetrical output signals upon which the claimed invention can be seen as an improvement.

Markkula et al. teaches a prior art comparable network and intelligent cell for providing sensing, bidirectional communications and control comprising a serially networked system, in particular a serial databus system, a subnetwork operation, to full network operation, characterized in that the system is changed over from the subnetwork operation to the full network operation through the detection of at least one defined, especially continuous and/or especially symmetrical signal level pattern in the data traffic on the system in which at least one node and/or at least one user of the system is in a state of reduced current consumption and is not addressed and/or not activated by the signal level of the data traffic on the system.

Thus, the manner of enhancing a particular device (network and intelligent cell for providing sensing, bidirectional communications and control comprising a serially networked system, in particular a serial databus system, a subnetwork operation, to full network operation, characterized in that the system is changed over from the subnetwork operation to the full network operation through the detection of at least one

defined, especially continuous and/or especially symmetrical signal level pattern in the data traffic on the system in which at least one node and/or at least one user of the system is in a state of reduced current consumption and is not addressed and/or not activated by the signal level of the data traffic on the system) was made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in Markkula et al. Accordingly, one of ordinary skill in the art would have been capable of applying this known improvement technique in the same manner to the prior art method comprising a controller area network bus driver with output signals comprising a signal level of the data traffic on a system in which all the nodes and/or all the users of the system are addressed and/or activated by the signal level of the data traffic on the system and symmetrical output signals of Boezen et al. and the results would have been predictable to one of ordinary skill in the art, namely, one skilled in the art would have readily recognized a switching circuit.

Consider claim 2, as applied to claim 1. Boezen et al., as modified by Markkula et al., discloses a method characterized in that the signal level pattern does not otherwise occur in the data traffic (Markkula et al., column 5 lines 19-38).

Consider claim 3, as applied to claim 1. Boezen et al., as modified by Markkula et al., discloses a method characterized in that the signal level pattern is detected by at least one node in the reduced current consumption state and/or by at least one user in the reduced current consumption state (Markkula et al., column 12 lines 26-60).

Consider claim 4. Boezen et al., as modified by Markkula et al., discloses a serially networked system (Markkula et al., column 15 lines 63-67 and column 16 lines 1-14 and column 32 lines 20-61), which is configured to be changed over from subnetwork operation (Markkula et al., column 7 lines 4-19), in which at least one node and/or at least one user of the system is in a state of reduced current consumption and cannot be addressed and/or activated by the signal level of the data traffic on the system (Markkula et al., column 12 lines 26-60), to full network operation, in which all the nodes and/or all the users of the system may be addressed and/or activated by the signal level of the data traffic on the system (Boezen et al., column 1 lines 25-43), characterized in that the changeover from the subnetwork operation to the full network operation takes place in the event of the detection of at least one defined, especially continuous and/or especially symmetrical (Boezen et al., title and abstract) signal level pattern in the data traffic on the system (Markkula et al., column 16 lines 17-59).

Consider claim 5, as applied to claim 4. Boezen et al., as modified by Markkula et al., discloses a system characterized in that the signal level pattern does not otherwise occur in the data traffic (Markkula et al., column 5 lines 19-38).

Consider claim 6, as applied to claim 4. Boezen et al., as modified by Markkula et al., discloses a system characterized in that the signal level pattern is detected by at

least one node and/or user in the reduced current consumption state (Markkula et al., column 12 lines 26-60).

Consider claim 7, as applied to claim 4. Boezen et al., as modified by Markkula et al., discloses a system characterized in that the system comprises at least one Controller Area Network (CAN) bus (Boezen et al., column 1 lines 25-43).

Consider claim 8, as applied to claim 4. Boezen et al., as modified by Markkula et al., discloses a system characterized in that the user takes the form of at least one system chip unit, in particular at least one system chip unit, and/or at least one microcontroller unit provided for carrying out at least one application (Markkula et al., column 17 lines 13-48).

Consider claim 9, as applied to claim 1. Boezen et al., as modified by Markkula et al., discloses a transceiver unit characterized in that the transceiver unit is connected to at least one Controller Area Network (CAN) bus and is in communication with at least one microcontroller unit which is provided to carry out at least one application (Markkula et al., column 17 lines 13-48).

Consider claim 10, as applied to claim 9. Boezen et al., as modified by Markkula et al., discloses a transceiver unit characterized by at least one control logic associated with the transceiver unit and/or implemented in the transceiver unit (Markkula et al.,

Figure 11).

Consider claim 12, as applied to claim 9. Boezen et al., as modified by Markkula et al., discloses a chip unit, in particular a system chip unit, for addressing and/or activating at least one microcontroller unit which is provided to carry out at least one application and which is associated with at least one Controller Area Network (CAN) bus characterized by at least one transceiver unit and at least one voltage regulator, which is connected to at least one battery unit, and which is in communication with at the at least one transceiver unit, the voltage regular being configured to supply a voltage to the at least one microcontroller unit (Boezen et al., column 1 lines 13-24).

Consider claim 13, as applied to claim 9. Boezen et al., as modified by Markkula et al., discloses a microcontroller unit provided to carry out at least one application and associated with at least one Controller Area Network (CAN) bus, which microcontroller unit is to be supplied with a voltage only if at least one defined, in particular continuous and/or in particular symmetrical signal level pattern is detected in at least one incoming message associated with at least one application and occurring on the databus, by at least one transceiver unit (Boezen et al., column lines 6-23).

Consider claim 14, as applied to claim 13. Boezen et al., as modified by Markkula et al., discloses a microcontroller unit characterized in that the microcontroller unit may be activated by the transceiver unit (Markkula et al., Figure 11).

15. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boezen et al. (US 6154061 A) in view of Markkula et al. (US 5475687 A) and in further view of Gelvin et al. (US 6832251 B1).

Consider claim 11, as applied to claim 9. Boezen et al., as modified by Markkula et al., discloses a voltage regulator (Boezen et al., column 5 lines 18-27). However, Boezen et al., as modified by Markkula et al., fails to disclose a method comprising batteries. Gelvin et al. discloses a method for distributed signal processing among internetworked wireless integrated network sensors comprising batteries (column 20 lines 44-50).

Therefore, it would have been obvious for a person of ordinary skill in the art at the time the invention was made to incorporate a method for distributed signal processing among internetworked wireless integrated network sensors comprising batteries as taught by Gelvin et al. with a method comprising a controller area network and a voltage regulator as taught by Boezen et al., as modified by Markkula et al., for the purpose of mobile circuitry.

Response to Arguments

16. Applicant’s arguments filed 30 June 2008 with respect to claims 1-2 and 4 have been considered, but are not persuasive.

Applicant asserts that "characterized in that the system is changed over from the subnetwork operation to the full network operation through the detection of at least one defined, especially continuous and/or especially symmetrical signal level pattern in the data traffic on the system," where the full network operation is described as "in which all the nodes and/or all the users of the system are addressed and/or activated by the signal level of the data traffic on the system." These limitations are not disclosed in the cited references of Boezen et al. and Markkula et al.

Applicant asserts that Markkula et al. does not disclose "subnetwork operation, in which at least one node and/or at least one user of the system is in a state of reduced current consumption" (emphasis added), as recited in the amended independent claim 1.

Applicant asserts that the limitations of "characterized in that the system is changed over from the subnetwork operation to the full network operation through the detection of at least one defined, especially continuous and/or especially symmetrical signal level pattern in the data traffic on the system," as recited in the amended independent claim 1. The cited passages of Markkula et al. fail to disclose any process

of changing the system from a subnetwork operation to a full network operation, as defined in the amended independent claim 1.

Applicant asserts that the cited passages of Markkula et al. fail to disclose any detection of a continuous and/or symmetrical signal level pattern to change the system from a subnetwork operation to a full network operation, as defined in the amended independent claim 1.

Applicant asserts that the cited reference of Markkula et al. does not disclose the limitations of “characterized in that the system is changed over from the subnetwork operation to the full network operation through the detection of at least one defined, especially continuous and/or especially symmetrical signal level pattern in the data traffic on the system," as recited in the amended independent claim 1.

Applicant asserts that "characterized in that the signal level pattern does not otherwise occur in the data traffic," which is not disclosed in the cited reference of Markkula et al.

Examiner respectfully disagrees.

Boezen et al. discloses a method comprising a controller area network bus driver with output signals comprising a signal level of the data traffic on a system in which all

the nodes and/or all the users of the system are addressed and/or activated by the signal level of the data traffic on the system ((“Such a bus driver is known from European Patent Specification EP 0 576 444 and is used in so-called Controller Area Network (CAN) bus systems which are used, inter alia, in cars. For this, use is made of transceivers (transmitter/receiver), information being transmitted as a differential signal via a two-wire bus having its two wires connected to the first and the second bus terminal. The transmitter supplies data signals to the bus and is from now on referred to as bus driver. The two bus wires are usually referred to as CANH and CANL and are connected to a pull-down resistor and a pull-up resistor at the receiver side. The voltages across the two bus wires have opposite polarities, as a result of which the spurious electromagnetic fields radiated by the two wires cancel one another. In the case of a high degree of symmetry the bus wires can take the form of a twisted pair and no expensive shielding is necessary. For this purpose the symmetry of the signals on the two bus wires should be as high as possible.”) Boezen et al., column 1 lines 25-43) and symmetrical output signals ((“CAN bus driver with symmetrical differential output signals”) Boezen et al., title, abstract). Markkula et al. discloses a network and intelligent cell for providing sensing, bidirectional communications and control comprising a serially networked system, in particular a serial databus system ((“The use of the repeater CRC calculation associated with the field 99 and the use of the circular list will prevent repeating of a previously rebroadcast packet. Note that even if an announcer continually rebroadcasts the same sequence of messages, for example, as would occur with the continuous turning on and turning off of a light, a cell designated as a repeater will

rebroadcast the same message since the packet containing messages appears to be different. This is true because the random number sent with each of the identical messages will presumably be different. However, in the instance where a cell receives the same message included within the same field 99 (same random number), the packet with its message will not be rebroadcast. This is particularly true for probe packets. Thus, for the establishment of groups discussed above, the broadcast probe packets quickly "die out" in the network, otherwise they may echo for some period of time, causing unnecessary traffic in the network.") Markkula et al., column 15 lines 63-67 and column 16 lines 1-14 ("Each of the cells includes a timing generator (RC oscillator) for providing a 16 mHz signal. This signal is connected to a rate multiplier 178 contained in the I/0 section (FIG. 18). The multiplier 178 provides output frequencies to each I/O subsection. This multiplier provides a frequency f.sub.0 equal to: ##EQU1## The loaded value is a 16 bit word loaded into a register of a rate multiplier 178. The rate multiplier comprises four 16-bit registers and a 16-bit counter chain. Four logic circuits allow selection of four different output signals, one for each subsection. Two bus cycles (8 bits each) are used to load the 16 bit words into the register of the rate multiplier 178. As can be seen from the above equation, a relatively wide range of output frequencies can be generated. These frequencies are used for many different functions as will be described including bit synchronization. The output of the multiplier 178 in each of the subsection is coupled to an 8 bit counter 179. The counter can be initially loaded from a counter load register 180 from the data bus of the processors. This register can, for example, receive data from a program. The count in the counter is coupled to a register

181 and to a comparator 182. The comparator 182 also senses the 8 bits in a register 183. The contents of this register are also loaded from the data bus of the processors. When a match between the contents in the counter and the contents of register 183 is detected by comparator 182; the comparator provides an event signal to the state machine of FIG. 19 (input to multiplexers 190 and 191). The contents of the counter 179 can be latched into register 181 upon receipt of a signal from the state machine (output of the execution register 198 of FIG. 19). The same execution register 198 can cause the counter 179 to be loaded from register 180. When the counter reaches a full count (terminal count) a signal is coupled to the state machine of FIG. 19 (input to multiplexers 190 and 191).”) Markkula et al., column 32 lines 20-61), a subnetwork operation ((“Subnetwork: A subnetwork comprises all the cells having the same system identification (system ID). For example, all the cells in a single family home may have the same system ID. Therefore, the channels of FIG. 4 may be part of the same subnetwork in that they share the same system ID. Full Network: A full network may comprise a plurality of subnetworks each of which has a different system ID; a communications processor is used for exchanging packets between subnetworks. The communications processor translates packets changing their system ID, addressing and other information. Two factory buildings may each have their own system ID, but control between the two is used by changing system IDs. (The word "network" is used in this application in its more general sense and therefore refers to other than a "full network” as defined in this paragraph.)”) Markkula et al., column 7 lines 4-19), to full network operation, characterized in that the system is changed over from the subnetwork

operation to the full network operation through the detection of at least one defined, especially continuous and/or especially symmetrical signal level pattern in the data traffic on the system ((“In many networks using the synchronous transmission of digital data, encoding is employed to embed timing information within the data stream. One widely used encoding method is Manchester coding. Manchester or other coding may be used to encode the packets described above, however, the coding described below is presently preferred. A three-of-six combinatorial coding is used to encode data for transmission in the presently preferred embodiment. All data is grouped into 4 bit nibbles and for each such nibble, six bits are transmitted. These six bits always have three ones and three zeroes. The transmission of three ones and three zeroes in some combination in every six bits allows the input circuitry of the cells to quickly become synchronized (bit synch) and to become byte synchronized as will be discussed in connection with the I/O section. Also once synchronized (out of hunt mode) the transitions in the incoming bit stream are used to maintain synch. The righthand column of FIG. 9 lists the 20 possible combinations of 6 bit patterns where 3 of the bits are ones and 3 are zeroes. In the lefthand column, the corresponding 4 bit pattern assigned to the three-of-six pattern is shown. For example, if the cell is to transmit the nibble 0111, it is converted to the bit segment 010011 before being transmitted. Similarly, 0000 is converted to 011010 before being transmitted. When a cell receives the 6 bit patterns, it converts them back to the corresponding 4 bit patterns. There are 20 three-of-six patterns and only 16 possible 4 bit combinations. Therefore, four three-of-six patterns do not have corresponding 4 bit pattern assignments. The three-of-six pattern 010101 is

used as a preamble for all packets. The flags for all packets are 101010. The preamble and flag patterns are particularly good for use by the input circuitry to establish data synchronization since they have repeated transitions at the basic data rate. The two three-of-six patterns not assigned can be used for special conditions and instructions. Accordingly, a cell prepares a packet generally in integral number of bytes and each nibble is assigned a 6 bit pattern before transmission. The preamble and flags are then added. The circuitry for converting from the 4 bit pattern to the 6 bit patterns and conversely, for converting from the 6 bit patterns to the 4 bit patterns is shown in FIGS. 14 and 15.") Markkula et al., column 16 lines 17-59) in which at least one node and/or at least one user of the system is in a state of reduced current consumption and is not addressed and/or not activated by the signal level of the data traffic on the system ((" This method is used in a network in which group and cell ASCII names have been assigned. The user commands the grouping device to wait for the next group announcement. Then the user stimulates the announcer in the group of interest. For example, if the announcer is a light switch, the user throws the switch. The grouping device hears the announcement packet and extracts the group ID from it. The user may verify that this group ID is for the desired group by causing the grouping device to send packets to all of the group listeners commanding them to toggle their outputs. The user verifies that it is the desired group by observing the actions of the listener cells (for example, if the group consists of lighting controls, the light flashes). Now using that group ID, the grouping device broadcasts a packet to the group requesting that each cell reply with its cell name until the cell of interest is found. The user selects that name

and the grouping device, knowing that cell's ID, can proceed with the group assignment process. If a user elects, the ID of the cell may be verified before proceeding with the grouping procedure. The following procedure is used to verify that the ID is for the target cell. If the selected cell is an announcer, the grouping device prompts the user to activate the announcer by stimulating its input. For example: if the cell is attached to a light switch, the user turns the switch on and off. The grouping device is then able to discover the group address and member number of the cell. If the selected cell is a listener, the grouping device sends packets to the cell (using the group and member numbers, for addressing) commanding it to toggle its output. For example, if the cell controls a light, the light will flash on and off. This allows the user to verify that he has selected the correct cell.") Markkula et al., column 12 lines 26-60).

Boezen et al. discloses a prior art method comprising a controller area network bus driver with output signals comprising a signal level of the data traffic on a system in which all the nodes and/or all the users of the system are addressed and/or activated by the signal level of the data traffic on the system and symmetrical output signals upon which the claimed invention can be seen as an improvement.

Markkula et al. teaches a prior art comparable network and intelligent cell for providing sensing, bidirectional communications and control comprising a serially networked system, in particular a serial databus system, a subnetwork operation, to full network operation, characterized in that the system is changed over from the

subnetwork operation to the full network operation through the detection of at least one defined, especially continuous and/or especially symmetrical signal level pattern in the data traffic on the system in which at least one node and/or at least one user of the system is in a state of reduced current consumption and is not addressed and/or not activated by the signal level of the data traffic on the system.

Thus, the manner of enhancing a particular device (network and intelligent cell for providing sensing, bidirectional communications and control comprising a serially networked system, in particular a serial databus system, a subnetwork operation, to full network operation, characterized in that the system is changed over from the subnetwork operation to the full network operation through the detection of at least one defined, especially continuous and/or especially symmetrical signal level pattern in the data traffic on the system in which at least one node and/or at least one user of the system is in a state of reduced current consumption and is not addressed and/or not activated by the signal level of the data traffic on the system) was made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in Markkula et al. Accordingly, one of ordinary skill in the art would have been capable of applying this known improvement technique in the same manner to the prior art method comprising a controller area network bus driver with output signals comprising a signal level of the data traffic on a system in which all the nodes and/or all the users of the system are addressed and/or activated by the signal level of the data traffic on the system and symmetrical output signals of Boezen et al. and the results

would have been predictable to one of ordinary skill in the art, namely, one skilled in the art would have readily recognized a switching circuit.

The examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider each of the cited references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage disclosed by the examiner.

Conclusion

17. Any response to this Office Action should be faxed to (571) 273-8300 or mailed to:

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Mark Fearer whose telephone number is (571) 270-1770. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tonia Dollinger can be reached on (571) 272-4170. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Mark Fearer
/M.D.F./
August 21, 2009

/Tonia LM Dollinger/

Supervisory Patent Examiner, Art Unit 2443